

**REMARKS**

Very thanks for Examination's suggestion and thanks for finding some citations about the present invention, thereby, the applicant may know more information about the invention. This case has been carefully reviewed and analyzed in view of the office action. All details of the reference prior arts are fully considered and compared with the present invention.

**ABOUT THE REJECTION SPECIFICATION**

Responsive to the objections and rejections made of the Examiner in office action. We have amended the claims and. All the errors disclosed in that office action has been corrected according to the Examiner's indications disclosed in the official action.

**ABOUT CLAIM REJECTION OF 35USC103**

Indeed the citations disclose some features of the present invention, and the applicant agrees with these viewpoints, however applicant discovers that some main features of the present invention are not disclosed in the citation which can form the novelty and inventive step of the present invention.

To illustrate the novelty of the present invention and overcome the objection from the citations, the applicant decides to cancel Claims 4,5,6,7, and 9, without prejudice or disclaimer of the subject matter thereof, and amend claim 1 as the following. In the amendment of claim 1, the contents of original claims 5 and 6 are incorporated thereinto and the feature in Figs 1 and 2 are added. Other claims are remained as the original form. No new matter is added. The relation of the new claims with respect to the original claims are shown in the following.

**CLAIMS SHOW CHANGES AND NUMERALS FOR DISCUSSING IN THE REMARK**

Claim 1. (Currently Amended) A multi-mode power supply device of a wireless earphone; the earphone being communicable bi-directionally with portable communication devices wirelessly through an antenna 13; the earphone having a battery set 14; in at least one side of the earphone 1; an internal of the earphone 1 having a power management circuit 16; the battery set 14 supplying power to the power management circuit 16; the power management circuit 16 being used to control the power on or off; and -

~~6. The multi-mode power supply device of a wireless earphone as claimed in 1, wherein each of two sides~~ one side of the earphone 1 has a groove 15; the power supply module 20 is installed in ~~a the~~ suspender 2; one end of the suspender 2 is inserted into one of the two grooves at two sides of the earphone 1 ~~the groove~~ so as to position the suspender 2 to the earphone, the suspender 2 having a power supply module 20; when the suspender 2 is combined to the earphone 1, the power management circuit 16 is electrically connected to the power supply module 20 and thus because the power management circuit 16 is also electrically connected to the battery set, ~~so as to supply power is supplied~~ to the earphone.

2. The multi-mode power supply device of a wireless earphone as claimed in 1, wherein the communication devices are selected from portable mobile phones and vehicle used phones.

3. The multi-mode power supply device of a wireless earphone as claimed in 1, wherein the battery set is a lithium

battery set; electric power is transferred from the battery set to the power management circuit for controlling the power output of the battery set.

4. ~~The multi-mode power supply device of a wireless earphone as claimed in 1, wherein the power supply module 20 is inserted into or buckled into one side of the earphone 1; and the power supply module 20 is electrically connected to the power management circuit 16.~~

5. ~~The multi-mode power supply device of a wireless earphone as claimed in 1, wherein a suspender 2 is capable of being inserted into or buckled into the groove of the earphone 1 so that the suspender 2 is positioned at one side of the power supply module 20; the suspender 2 has a power supply module 20; when the suspender 2 is combined to the earphone 1, the power management circuit 16 is electrically connected to the power supply module 20.~~

6. ~~The multi-mode power supply device of a wireless earphone as claimed in 1, wherein one side of the earphone 1 has a groove 15; the power supply module 20 is installed in the suspender 2; one end of the suspender is inserted into the groove so as to position the suspender to the earphone; and thus the power management circuit is electrically connected to the battery set so as to supply power to the earphone.~~

7. ~~The multi-mode power supply device of a wireless earphone as claimed in 5, wherein one side of the earphone 1 has a groove; the power supply module 16 is installed in the suspender 2; one end of the suspender 2 is inserted into the groove 15 so as to position the suspender 2 to the earphone 1, and thus the power management circuit 16 is electrically~~

~~connected to the battery set 14 to supply power to the earphone 1.~~

8. The multi-mode power supply device of a wireless earphone as claimed in 1, wherein the power supply module 20 is a chargeable battery.

~~9. The multi-mode power supply device of a wireless earphone as claimed in 5, wherein the power supply module 20 is a chargeable battery.~~

10. The multi-mode power supply device of a wireless earphone as claimed in 1, wherein the power management circuit 16 has a check loop 161 for preventing power from flowing along a reverse direction so as to protect the components within the earphone.

11. The multi-mode power supply device of a wireless earphone as claimed in 3, wherein the power management circuit has a check loop 161 for preventing power from flowing along a reverse direction so as to protect the components within the earphone.

#### DISCUSSION ABOUT THE NOVELTY THE PRESENT INVENTION

(A) In the claim 1 of the present invention" each of two sides of the earphone 1 has a groove 15; the power supply module 20 is installed in the suspender 2; one end of a suspender 2 is inserted into one of the two grooves at two sides of the earphone 1 so as to position the suspender 2 to the earphone,"

Referring to Figs. 1 and 2, it is illustrated that the present invention has two grooves 15 at two sides so that the suspender 2 can be inserted into any one of the two grooves. This causes that the present invention can is

suitable for being used to be hanged at any sides of the users head.

However, the citation USP6839448 has only one groove (see Fig. 3 of the citation '448). The citation USP2002/0016188 do not show that it has two grooves. The citation USP6472846 has no design about this feature.

**(B) In the present invention, the power supply module 20 is installed in the suspender 2. The power management circuit 16 and battery set 14 are installed in the earphone.**

The citation '188 discloses a power circuit arrangement, but it did not disclose that the power supply module 20 is installed in the suspender 2. The power management circuit 16 and battery set 14 are installed in the earphone.

In the citation '448, the battery 7 is placed in the suspender 5. The citation '846 discloses a power management circuit but it did not disclose the arrangement of the circuit.

The citation USP846 discloses a circuit arrangement, but it did not disclose that the power supply module 20 is installed in the suspender 2. The power management circuit 16 and battery set 14 are installed in the earphone.

However, the present invention places the power supply module 20 in the suspender 2 has the advantage of light weight in the suspender so that the suspender 2 can be made smaller with a compact and beautiful outlook and the suspender can be hidden after the ear and thus it does not be found, but the citations can not achieve above mentioned advantages.

**(C) In the present invention, "the power management circuit has a check loop for preventing power from flowing along a reverse direction so as to protect the components within the earphone."**

Although the citation '846 has disclosed that to use a check loop in the power system, but it did not disclose that to use the power system to an earphone. The present invention adds this feature to the earphone so as to provide protection function to the earphone.

(D) For the combinations of the citations

From above discussion, it is known that the combination of all the citations cannot have the features in above (A) and (B).

Although other features can be seen in the other citations, from the office action, it is known that the present invention combines the features in various citation so as to form a powerful combining device, which cannot be achieved by any of the citations. The present invention combine many features so as to provide a power device. This makes the present invention being novel and inventive.


#### **(E) RESULT**

Since in above discussion, it is apparent that no prior art has the features of the present invention, especially in claim 1. Furthermore, as we know that no other prior art has features of the present invention. Thus, the present invention is novel and inventive.

If there is any error in the specification, or claims, applicant requests and authorizes Examiner to amend the claims, specification and drawings of the present invention so that they can match the requirement of U. S. Patent. Attentions of Examiner to this matter are greatly appreciated.

It is now believed that the subject Patent Application has been placed in condition for allowance, and such action is respectfully requested.

Respectfully submitted.

  
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